# Release notes for ENDF/B Development e-097_Bk_000 evaluation

October 13, 2016

- `fudge-4.0` Warnings:

  1. Mislabled emitted particle
     *Reading ENDF file: ../e-097_Bk_000.endf (Error # 0): ZAP messed up*

     `WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0`

  2. FIXME: Generic fudge unimplemented message
     *reaction label 1: e- + Bk + gamma [bremsstrahlung] / Product: e- (Error # 0): Generic unimp (c)*

     `WARNING: Checking not yet implemented for energyLoss type data`

  3. FIXME: Generic fudge unimplemented message
     *reaction label 2: e- + Bk [excitation] / Product: e- (Error # 0): Generic unimp (c)*

     `WARNING: Checking not yet implemented for energyLoss type data`

- `fudge-4.0` Errors:

  1. Calculated and tabulated thresholds don't agree
     *reaction label 0: e- + Bk [large angle Coulomb scattering] / Cross section: (Error # 0): Threshold mismatch*

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  2. Calculated and tabulated thresholds don't agree
     *reaction label 1: e- + Bk + gamma [bremsstrahlung] / Cross section: (Error # 0): Threshold mismatch*

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  3. Calculated and tabulated thresholds don't agree
     *reaction label 2: e- + Bk [excitation] / Cross section: (Error # 0): Threshold mismatch*

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 10. eV!`

  4. Calculated and tabulated thresholds don't agree
     *reaction label 3: e- + e- + Bk1s1/2 / Cross section: (Error # 0): Threshold mismatch*

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 132210. eV!`

  5. Calculated and tabulated thresholds don't agree
     *reaction label 4: e- + e- + Bk2s1/2 / Cross section: (Error # 0): Threshold mismatch*

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 25294. eV!`

  6. Calculated and tabulated thresholds don't agree
     *reaction label 5: e- + e- + Bk2p1/2 / Cross section: (Error # 0): Threshold mismatch*

     `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 24503. eV!`

  7. Calculated and tabulated thresholds don't agree
     *reaction label 6: e- + e- + Bk2p3/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 19462. eV!
```

8. Calculated and tabulated thresholds don't agree
   *reaction label 7: e- + e- + Bk3s1/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6523.3 eV!
```

9. Calculated and tabulated thresholds don't agree
   *reaction label 8: e- + e- + Bk3p1/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6148.8 eV!
```

10. Calculated and tabulated thresholds don't agree
    *reaction label 9: e- + e- + Bk3p3/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4968.6 eV!
```

11. Calculated and tabulated thresholds don't agree
    *reaction label 10: e- + e- + Bk3d3/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4366.9 eV!
```

12. Calculated and tabulated thresholds don't agree
    *reaction label 11: e- + e- + Bk3d5/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4134.3 eV!
```

13. Calculated and tabulated thresholds don't agree
    *reaction label 12: e- + e- + Bk4s1/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1728.8 eV!
```

14. Calculated and tabulated thresholds don't agree
    *reaction label 13: e- + e- + Bk4p1/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1554. eV!
```

15. Calculated and tabulated thresholds don't agree
    *reaction label 14: e- + e- + Bk4p3/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 1236.6 eV!
```

16. Calculated and tabulated thresholds don't agree
    *reaction label 15: e- + e- + Bk4d3/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 956.12 eV!
```

17. Calculated and tabulated thresholds don't agree
    *reaction label 16: e- + e- + Bk4d5/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 898.8200000000001 eV!
```

18. Calculated and tabulated thresholds don't agree
    *reaction label 17: e- + e- + Bk4f5/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 528.02 eV!
```

19. Calculated and tabulated thresholds don't agree
    *reaction label 18: e- + e- + Bk4f7/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 512.27 eV!`

20. Calculated and tabulated thresholds don't agree
    *reaction label 19: e- + e- + Bk5s1/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 400.87 eV!`

21. Calculated and tabulated thresholds don't agree
    *reaction label 20: e- + e- + Bk5p1/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 329.26 eV!`

22. Calculated and tabulated thresholds don't agree
    *reaction label 21: e- + e- + Bk5p3/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 248.62 eV!`

23. Calculated and tabulated thresholds don't agree
    *reaction label 22: e- + e- + Bk5d3/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 142.39 eV!`

24. Calculated and tabulated thresholds don't agree
    *reaction label 23: e- + e- + Bk5d5/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 130.35 eV!`

25. Calculated and tabulated thresholds don't agree
    *reaction label 24: e- + e- + Bk5f5/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 14.53 eV!`

26. Calculated and tabulated thresholds don't agree
    *reaction label 25: e- + e- + Bk5f7/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 12.84 eV!`

27. Calculated and tabulated thresholds don't agree
    *reaction label 26: e- + e- + Bk6s1/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 62.79 eV!`

28. Calculated and tabulated thresholds don't agree
    *reaction label 27: e- + e- + Bk6p1/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 41.01 eV!`

29. Calculated and tabulated thresholds don't agree
    *reaction label 28: e- + e- + Bk6p3/2 / Cross section: (Error # 0): Threshold mismatch*

    `WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 27.51 eV!`

30. Calculated and tabulated thresholds don't agree
*reaction label 29: e- + e- + Bk6d3/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 4.6 eV!
```

31. Calculated and tabulated thresholds don't agree
*reaction label 30: e- + e- + Bk6d5/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 3.85 eV!
```

32. Calculated and tabulated thresholds don't agree
*reaction label 31: e- + e- + Bk7s1/2 / Cross section: (Error # 0): Threshold mismatch*

```
WARNING: Calculated and tabulated thresholds disagree: 1.e-5 eV vs 6.28 eV!
```

- `xsectplotter` Warnings:

  1. Mislabled emitted particle
     *Error: ZAP messed up*

     ```
     stderr while processing crossSection

         WARNING: photon most likely labelled as an electron (ZAP = 11), converting to ZAP = 0
     ... [4 more lines]
     ```